

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Maximilian ARZBERGER

Application No. 10/786,601

Filed: February 26, 2004

For: CUTTING DEVICE FOR CUTTING  
TRENCHES IN THE GROUND

Confirmation No.: 2823

TC/Art Unit: 3671

Examiner: Meredith Petravick

Atty Docket: P69484US0

SECOND DECLARATION UNDER 37 CFR § 1.132

Mail Stop RCE  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

I, JOSEF HAAS, declare that:

1. I am the same Josef Haas who provided a Declaration under 37 CFR § 1.132 in response to the Office Action dated December 1, 2005.

2. I have read, am familiar with, and understand the Office Action dated May 2, 2006 issued in connection with this application, the prior art references cited therein, and the other prior art references that have been made of record during prosecution of this application.

3. U.S. Patent No. 4,694,915 to Bauer et al. ("Bauer") relates to a state-of-the-art trench wall cutter. In a state-of-the-art trench wall cutter such as disclosed by Bauer, two sets 10 of cutting wheels 11 are provided at the bottom of a frame 5.

4. Bauer's cutting wheels 11 are unidirectional; that is, each cutting wheel only rotates in one direction. In a state-of-the-art trench wall cutter such as Bauer's, the cutting

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wheels are not bidirectional; that is, their directions of rotation are not reversible between rotation in the clockwise and counter-clockwise directions. Bidirectionality is not taught or suggested by Bauer.

5. This unidirectional mode of rotation can be seen in Bauer's Figure 1, wherein unnumbered arrows are provided indicating the respective rotation directions of the cutting wheels 11. As shown in Figure 1, the left-hand side cutting wheels 11 rotate counterclockwise and right-hand side cutting wheels 11 rotate clockwise. This rotation is also described at column 3, lines 42-45 ("When in operation, the two cutting wheel sets 10 rotate in opposite directions in the manner indicated by the two arrows in FIG. 1 and thus supply the cut material to the suction means with pump 7.").

6. Due to the chosen directions of rotation, Bauer's cutting wheels 11 serve two purposes. Firstly, they cut and loosen soil material located below the trench wall cutter. Secondly, they also convey the loosened earth material and convey it to the suction device 7 arranged centrally between the cutting wheels, so that the suction device 7 can transport the loosened earth material out of the trench.

7. Theoretically, it would be possible to modify Bauer as proposed in the Office Action, that is, to make Bauer's cutting wheels 11 bidirectional and to add cutting elements on a control device as taught by U.S. Patent No. 4,120,106 to Smith et al. ("Smith"). However, reversing the direction of rotation of such modified cutting wheels would disrupt their conveying function. If the direction of rotation were reversed, the cutting wheels 11 would transport the loosened soil material away from the suction device 7, resulting in a jam of the trench wall cutter in the ground. Therefore, the proposed modification of Bauer in accordance with the teachings of Smith would render Bauer's trench wall cutter unsatisfactory for its intended purpose.

8. Further, the suggested combination of references would require a substantial reconstruction and redesign of the elements of Bauer's trench wall cutter, as well as a change in the basic principle under which the construction of Bauer et al.'s trench wall cutter was designed to operate, in order for the modified trench wall cutter to avoid the jamming problem and operate satisfactorily for its intended purpose. Therefore, the proposed modification of Bauer in accordance with the teachings of Smith would change the principle of operation of Bauer's trench wall cutter.

9. Finally, because the resulting trench wall cutter would jam if the cutting wheels of Bauer et al. were replaced with the cutting wheels of Smith and the rotation direction of the cutting wheels were reversed during operation as in Smith, Smith's second cutting element would not be able to remove soil material when the direction of rotation of the cutting wheel was reversed. Therefore, the claimed invention would not result from the proposed modification of Bauer in accordance with the teachings of Smith.

10. A unidirectional mode of rotation where the left-hand cutting wheels rotate counterclockwise, the right-hand cutting wheels clockwise, is also provided in the remaining documents previously made of record and cited as disclosing trench wall cutters (cf. Endo (see arrows in Figures 2 and 5), Sourice (see arrows in Figure 1 and description at column 3, lines 13-14), and Charlier (see arrows in Figure 1)). None of these references teach or suggest a trench wall cutter in which the direction of rotation of the cutting wheels is reversible.


11. Consequently, it is my conclusion, based on my expertise in underground construction engineering and my evaluation of the prior art cited in the Office Action and previously made of record, that the statement at page 4, first full paragraph, of the Office Action that "it would have been obvious ... to replace the cutters of Bauer et al. with the cutters of

Smith et al., in order to provide for a more efficient operation of the device in two directions as suggested in Smith" is incorrect.

12. I understand that willful false statements and the like are punishable by fine or imprisonment, or both (under Title 18, U.S. Code section 1001) and may jeopardize the validity of the application or any patent issuing thereon.

13. All statements made of my own knowledge are true and that all statements made on information and belief are believed to be true.

Date: 18. 07. 2006

Signed:   
Josef Haas

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